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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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08/056,029 04/30/93 BOYCE

J FM-112J

EXAMINER SHELBOURNE, K

15M1/0401

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WALTHAM, MA 02154

ART UNIT	PAPER NUMBER
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DATE MAILED: ¹⁵⁰²

04/01/96

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

08/056,029

Applicant(s)

Boyce, Joseph et al

Examiner

Kathryne Shelborne

Group Art Unit

1502



☒ Responsive to communication(s) filed on Mar 6, 1996

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-24 is/are pending in the application.

Of the above, claim(s) 5, 8, 21, and 23 is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-4, 6, 7, 9-20, 22, and 24 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☐ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

Art Unit: 1504

In view of the discovery of new art, this case is being reopened for prosecution for the reasons discussed below. The delay in discovering and applying the art is regretted.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 6, 9, 10, 12, 16, 18, 20 and 22 are rejected under 35 U.S.C. § 102(b) as being anticipated by Born et al (4,923,540).

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Born et al discloses a method of adhering two fiber-reinforced composites together which includes the steps of bringing together the joint surfaces of the composites, ^{with fibers projecting from the surfaces,} disposing adhesive therebetween and urging the respective surfaces together. Note column 1, lines 50-61 and column 2, lines 39-45.

Claims 1, 3, 5, ^{NE} 9, 10, 12, 16, 18, 20 and 22 are rejected under 35 U.S.C. § 102(b) as being anticipated by the 783035 Publication.

The 783035 Publication which discloses a method wherein reinforced composite parts 1 and 2 are assembled face-to-face to provide a joint region therebetween with reinforcing elements 3 interstitially disposed in the joint region and a rubber adherent

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disposed about the elements and joint surfaces. (Note the Abstract).

The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Claims 2, 7, 11 and 17 are rejected under 35 U.S.C. § 103 as being unpatentable over Born et al.

The disclosure particularly in column 1, line 13 clearly suggests the use of prepregs and it would have been obvious to employ prepregs as the fiber-reinforced plastic composites in the bonding method of Born et al with the expectation that the prepregs would be successfully joined. Additionally, the use of carbon-carbon composites would have been obvious bearing in mind the generic nature of suitable composites disclosed in the reference.

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Claim 3 is rejected under 35 U.S.C. § 103 as being unpatentable over the 783035 Publication.

The 783035 Publication is relied upon for the reasons cited above. The reinforcing elements 3 are not specifically disclosed as fibers although the word "strands" is disclosed. In any event, high modulus fibers are conventionally employed in conveyor belts and it would have been obvious to employ said belts in the process of the reference.

Claims 1-4, 6, 7, 9-20 and 22 are rejected under 35 U.S.C. § 103 as being unpatentable over Holko.

Holko discloses a brazing process for joining carbon-carbon composite components. An interlayer adherent is disposed between the surfaces of the composites (adherends) to be joined and the assembly is held together under compression while it is heated to a temperature to melt the interlayer material and cause bonding between the interlayer and the carbon-carbon composite material. (Note column 2, lines 11-60). The carbon-carbon composite adherends are formed by a process that involves disposing a plurality of fibrous reinforcing elements throughout the thickness thereof. Thus, Holko discloses all the recited steps of the claimed methods, only failing to disclose that reinforcing fibers in the composites extend from the surfaces thereof. Since the present claims are process claims and the manipulative steps of the process are known in the art as shown by Holko, the claims

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are obvious under the principles enunciated in In re Durden, 226 USPQ 359 and Ex parte Kifer, 5 USPQ 2d 1904.

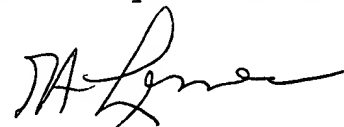
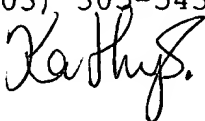
Claims 4, 13-15 and 19 are rejected under 35 U.S.C. § 103 as being unpatentable over Holko in view of Born et al, Allum et al and the 783035 Publication.

Holko was discussed above. The secondary art collectively teaches the concept of strengthening a joint between 2 fibrous adherends by extending the fibers beyond the joint surfaces of the adherends and into the joint area therebetween. (Note column 1, line 66 to column 2, line 3 and column 3, lines 16-18 of Allum et al.). It would have been obvious to modify the brazing method of Holko by extending the fibers of the composite adherends into the joint area as disclosed in the secondary art motivated by a reasonable expectation that the joint between the adherends would be strengthened.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kathryn E. Shelborne whose telephone number is (703) 308-3627.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-2351.

The fax number of Art Unit 1504 for your convenience is (703) 305-5436.



GEORGE F. LESMES
SUPERVISORY PATENT EXAMINER
GROUP 150